

An Essay
on the

Mechanism of Parturition

Respectfully Submitted

To the Faculty of the

Homoeopathic Medical College

of Pennsylvania
on the

Thirtieth day of January

One thousand eight hundred and fifty three

by

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of Philadelphia. Pa.

Geological Survey of the State

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department of the State which has
been established for the purpose of
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The Mechanism of Parturition

In considering the Mechanism of Parturition, we find three distinct agents which we will consider separately. The expulsive force, The passages and The child.

First of the Expulsive Force. By the expulsive force is meant, that, which causes the child to pass through the passages. The uterus is the immediate agent in this expulsive force. By its contractions the contents are expelled. Although some authors deny the existence of muscular fibres in the uterus, still it performs muscular action, and in the advanced stages of pregnancy, a careful dissection will show muscular fibres, although

they cannot be easily traced in the unimpregnated state. The muscular action of the uterus is involuntary; contractions may be brought on by holding the breath, compressing the abdominal muscles and bearing down, yet when the contractions are brought on, it is impossible for the patient to prevent them; Yet fright, anger, or anything exciting to the mind may put a stop to them at once, even when at their height.

Contractions of the uterus may be brought on by imitation; sometimes after the child is delivered, the uterus will not readily contract; by friction or pressure externally, or by the introduction of something irritating internally, contractions may be brought on and the uterus will generally return to its natural size.

By Pains we mean the regular contractions of the uterus, at distinct intervals; and not the suffering which they cause to the patient. During the first stage of Labour these pains are called "Cutting or Grinding", from their peculiar character, and are caused by the resistance, which the circular fibres offer to the longitudinal, or the forcible distention of the os uteri & passages. After a while the circular fibres are overcome, the os uteri and passages are dilated, and the longitudinal fibres alone are called into action, whence they are called "Bearing down" pains.

These constitute the second stage of labour. It is during this stage, that the patient assists the contractions of

the uterus by calling the voluntary muscles into action, by bearing down &c.

During each pain the uterus becomes hard from the contractions of its fibres. The characteristic of true labour pains is the fact, that they gradually increase in severity until they have reached their height, when they remain stationary for a few minutes and then quickly subside; between each pain there is a distinct interval, when there is perfect freedom from pain.

It has already been mentioned that anger, fright, or the entrance of a strange doctor, may be the cause of stopping the pains, which, when stopped, may be postponed for several days.

After the contractions of the uterus

are fully established, the voluntary muscles are called into action and the patient has little or no power over them.

Second the Passages. Before going into an accurate description of the passages, it will be better to mention the different diameters of the pelvis and their changes. The diameters of the brim are as follows. The Antero Posterior, $4\frac{1}{2}$ inches. The Transverse $5\frac{1}{4}$ inches. The Oblique 5 inches. The diameters of the outlet. Antero Posterior 5 inches and Transverse 4 inches. By these measurements it will be seen that the short diameter of the brim becomes the long diameter of the outlet; And the long diameter of the brim, the

short diameter of the outlet. These changes are gradual. The soft parts fill up, about half an inch each way, and present little or no obstacle to the passage of the Child. The next to be considered are the angles. These are formed by the decussation of the axes of the brim and outlet of the pelvis. An accurate knowledge of these is of great importance to the accoucheur.

The first resistance the child meets with is the os uteri. This is first softened and lubricated by the mucous discharge, and then the bag of waters or "Siquor Amnii" forming a wedge, gradually dilate the part, until it is nearly of sufficient size to accomodate the head of the Child, when it breaks, either naturally or by the assistance

of the accoucheur, and the head itself engages in the os uteri, and by repeated efforts, at distinct intervals, during which it recedes again, it is at last enabled to pass through the os uteri. When the Childs head comes in contact with the brim of the pelvis, it must adjust itself to the diameters of the brim. The longitudinal diameter of the head passing into the oblique diameter of the brim. When this is done the Child can only advance by a spiral movement, the long diameter of the head gradually coming into the Antero Posterior diameter of the outlet, as it approaches the external parts, which forms the next resistance the Childs head meets with. During this time, the direction is changed from the axis of the brim, to that of the outlet.

In young females who have never born children, there is often much pain, and trouble, in dilating the external parts, there is also danger of the Perineum being lacerated. But this may generally be prevented by the Accoucheur giving the proper assistance.

It will not be amiss to speak here of the three stages of Labour. The first terminates when the os uteri is fully dilated and the head has overcome the first resistance and is fairly in the cavity of the pelvis.

The second commences here and terminates when the external parts are dilated and the head has passed the external barrier, when there is little or no more trouble and the child is born. The third is the delivery of the Placenta which sometimes presents

great difficulties. In ordinary cases a few minutes after the cord is cut, the Placenta will be detached by the contractions of the uterus, when slight traction may be made upon the funis, and it will be delivered without trouble.

The Child. We next come to consider the part which the child takes in the Mechanism of Parturition. It is the object of Parturition and performs a passive part, by adjusting itself to the various diameters of the pelvis; it accelerates, and renders labour easier. Without this adaptation, the Child could not be delivered, in the natural way. We will give what are considered the general diameters of a well formed head. The longitudinal diameter is $4\frac{1}{2}$ inches, The transverse 4 inches, The

Occipito Mental or oblique 5 inches. These correspond to the various diameters of the brim and outlet of the pelvis. Beside the fact of the different diameters of the head adjusting themselves to the corresponding diameters of the pelvis, the compressibility of the head and body of the child facilitates its expulsion through the passages.

Having now considered the three agents assisting in the "mechanism of Parturition" we will consider the Mechanism of Parturition itself. By this is meant the various presentations and the manner in which each may progress to a favourable termination. There are generally considered to be six presentations. That side of the pelvis at which the head appears at the lowest level is generally the one towards which the vertex or posterior

fontanelle points. By feeling on the scalp with the finger the sagittal suture may be felt, and by tracing it, if it meets two other sutures, and no more, we know that it is the posterior fontanelle. But if instead of three sutures there be four with a soft membranous spot between them, of a quadrilateral shape, we then know it to be the anterior fontanelle.

All agree in calling the first Presentation that in which the vertex or posterior fontanelle is turned toward the left acetabulum. It is considered first because most frequently met with.

The second is that in which the vertex is toward the right acetabulum, and the third in which the vertex is immediately behind the symphysis pubis. These are called

the Occipits Anterior from their position, the remaining three the Occipits Posterior, being just the reverse of the others, or when in the fourth the vertex is at the right Sacro Iliac Synchondrosis. In the fifth towards the left and in the sixth, when it is immediately at the promontory of the Sacrum.

The First and Second presentation are those most frequently met with and most easily delivered. The others have to be changed to their position generally, when the labour progresses easily.